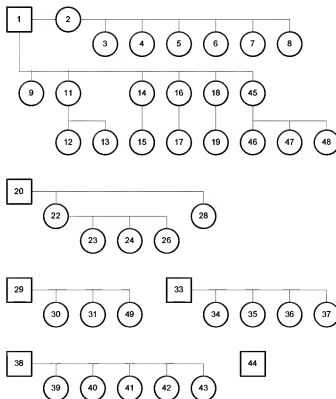


## REMARKS

In view of the following remarks, Applicants respectfully request reconsideration of the subject application. An Office action mailed March 21, 2007 ("the Office action") is pending in the application. Applicants have carefully considered the Office action and the references of record. In the Office action, claims 1-15, 18-27, 29-37 and 45-48 were rejected under 35 U.S.C. § 102, and claims 12, 16-17, 28, 38-44 and 49 were rejected under 35 U.S.C. § 103. Claims 1-9, 11-20, 22-24, 26, 28 and 33-48 were further rejected under 35 U.S.C. § 101. In this response to the Office action, claims 1, 12, 20, 28-29, 33, 38 and 44-45 have been amended. Therefore, claims 1-9, 11-20, 22-24, 26, 28-31 and 33-49 are pending in the application. The following diagram depicts the relationship between the independent and dependent claims as amended.



1        **Rejections of Independent Claims Under 35 U.S.C. § 102**

2        Each of the independent claims 1, 20, 29 and 33 stands rejected under 35  
3        U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,457,028 to Pitkow et al.  
4        (hereinafter *Pitkow*). However, the Manual of Patent Examining Procedure  
5        (M.P.E.P.) states that a claim is anticipated by a reference only if each and every  
6        element as set forth in the claim can be found in the reference and, furthermore,  
7        that **the identical invention must be shown** in as complete detail as is contained  
8        in the claim.

9                A claim is anticipated only if each and every element set forth in the claim  
10              is found, either expressly or inherently described, in a single prior art  
11              reference. ... **The identical invention must be shown** in as complete  
12              detail as is contained in the ... claim.

13              (M.P.E.P. § 2131, emphasis added). Each of the independent claims 1, 20,  
14              29 and 33 include at least one feature not described by *Pitkow*. For at least this  
15              reason, the rejections under 35 U.S.C. § 102 of the independent claims 1, 20, 29  
16              and 33 should be withdrawn. Examples of claim features not found in *Pitkow* are  
17              given below.

18              Independent claim 1 is directed to a computerized method that includes  
19              modifying a data structure corresponding to a community of objects. Claim 1  
20              references at least two types of community objects, namely: core objects and  
21              affiliated objects. In addition, claim 1 requires that the data structure  
22              corresponding to the community include at least two elements, namely: a set of  
23              core objects and a set of affiliated objects.

24              A computerized method comprising ... identifying ... a set of core objects  
25              for a data structure corresponding to a community ... and expanding ...  
                the data structure corresponding to the community ... to include a set of  
                affiliated objects.

(Independent claim 1). The structure of the data structure corresponding to the community is not insignificant at least because it facilitates treatment of the community as a single programmatic object. This management of complexity is a theme of modern computer science and requires skill in the art to achieve effectively. To make clear aspects of the data structure corresponding to the community, claim 1 is amended herein to require that the set of core objects and the set of affiliated objects be maintained within the data structure as distinct entities.

The set of core objects and the set of affiliated objects are maintained as distinct entities within the data structure.

(Independent claim 1, as amended). A helpful example of a data structure in accordance with the requirements of claim 1 is described in the specification with reference to Figure 1. In that example, a community is defined as a four-tuple  $\langle C, A, F, Va \rangle$  where  $C$  is a set of core objects,  $A$  is a set of affiliated objects,  $F$  is an affiliation definition function, and  $Va$  is an importance vector for  $A$  with respect to  $C$ .

Communities ... are defined as a four-tuple  $\langle C, A, F, Va \rangle$ , where  $C$  represents the set of core objects,  $A$  represents the set of affiliated objects,  $F$  represents the affiliation definition function ... and  $Va$  is the importance vector for  $A$  to measure the rank of every object in  $A$  to the set of core objects  $C$ .

(Specification, page 8, lines 13-22). In this example, the maintenance of distinct sets of core objects  $C$  and affiliate objects  $A$  is clear.

The Office action cites *Pitkow* as describing the data structure corresponding to the community as required by claim 1, but in fact none of the data structures described by *Pitkow* meet the requirements of claim 1. For example, if the filtered document collection referenced by *Pitkow's* Figure 2 is

1 construed as the required data structure it cannot be said to maintain a set of core  
2 objects and a distinct set of affiliate objects. Similarly, if the generated document  
3 clusters referenced by *Pitkow*'s Figure 2 are construed as the required data  
4 structure, they cannot be said to maintain a set of core objects and also a distinct  
5 set of affiliate objects. It may be that *Pitkow*'s Web site topology is construed as  
6 the required data structure corresponding to a community as required by claim 1,  
7 but the only structure described by *Pitkow* for a Web site topology is that it is  
8 "defined by links." (*Pitkow*, column 4, lines 33-35). This certainly doesn't meet  
9 the "identical invention" standard of 35 U.S.C. § 102. Neither does it fairly  
10 suggest a data structure that maintains a set of core objects as well as a distinct set  
11 of affiliate objects so as to establish *prima facie* obviousness under 35 U.S.C. §  
12 103. *Pitkow* therefore fails to describe or fairly suggest each element of claim 1 in  
13 as complete detail as required by claim 1, and so claim 1 is patentable for at least  
14 this reason.

15 Independent claim 1 is patentable for at least the reasons presented above.  
16 Furthermore, independent claims 20, 29 and 33 as amended, each include salient  
17 features similar to those of independent claim 1, and are therefore patentable for  
18 the same or similar reasons.

#### 19 20 **Rejections of Dependent Claims 45-48 Under 35 U.S.C. § 102**

21 Each of the dependent claims 45-48 stands rejected under 35 U.S.C. §  
22 102(b) as being anticipated by *Pitkow*. However, each of the claims 45-48 include  
23 at least one feature not described by *Pitkow* and, for at least this reason, the  
24 rejections of claims 45-48 under 35 U.S.C. § 102 should be withdrawn. Examples  
25 of claim features not found in *Pitkow* are given below.

1 Claim 45 is directed to a computerized method as in independent claim 1  
2 with additional features. References (e.g., links or relationships) between objects  
3 may be of different types. In particular some types of references may be more  
4 important than others. One example given in the specification is that of a marriage  
5 relationship in comparison to a co-worker relationship. (Specification, page 5,  
6 lines 20-23). Claim 45 requires that one or more references between objects be  
7 associated with weights that correspond to (e.g., are based on) the reference type.  
8 The Office action cites the link frequency of *Pitkow* as describing such weights, so  
9 claim 45 is amended herein to clarify that the required weights correspond to  
10 reference types that are independent of reference frequency.

11 At least one reference is associated with a weight corresponding to a type  
12 of the at least one reference that is independent of reference frequency.

13 (Dependent claim 45, as amended). *Pitkow* does not differentiate between  
14 such reference types and so certainly does not describe assignment of weights  
15 based on such reference types. *Pitkow* therefore fails to describe each element of  
16 claim 45 in as complete detail as required by claim 45.

17 The clarification of dependent claim 45 similarly clarifies dependent claims  
18 46-48. Since *Pitkow* does not describe the weights of claim 45, it does not  
19 describe the weights of claims 46-48 which depend from claim 45 and therefore  
20 incorporate the features of claim 45. *Pitkow* therefore fails to describe each  
21 element of claims 46-48 in as complete detail as required by the claims.

22 In addition, dependent claim 48 adds a further feature to the data structure  
23 corresponding to the community of objects introduced in independent claim 1.  
24 Dependent claim 48 requires that the data structure include an additional element,  
25 namely a programmatic function corresponding to the affiliation definition

1 function in the example mentioned above with reference to independent claim 1.  
2 *Pitkow* certainly makes no mention of a data structure meeting the requirements of  
3 the data structure specified by dependent claim 45.

4  
5 **Rejections of Independent Claims Under 35 U.S.C. § 103**

6 Each of the independent claims 38 and 44 stands rejected under 35 U.S.C. §  
7 103(a) as being unpatentable over *Pitkow* in view of U.S. Publication No.  
8 2002/0152222 to David M. Holbrook (hereinafter *Holbrook*) or U.S. Patent No.  
9 6,564,206 to Kazuyo Ikeda (hereinafter *Ikeda*). However, the M.P.E.P. further  
10 states that, to support the rejection of a claim under 35 U.S.C. § 103(a), each  
11 feature of each rejected claim must be taught or suggested by the applied  
12 references, and that each of the words describing each feature must be taken into  
13 account.

14 To establish *prima facie* obviousness of a claimed invention, **all** the claim  
15 limitations **must** be taught or suggested by the prior art. ... **All** words in a  
16 claim **must** be considered in judging the patentability of that claim against  
the prior art.

17 (M.P.E.P. § 2143.03, emphasis added). Each of the independent claims 38  
18 and 44 as amended herein includes at least one feature not taught or fairly  
19 suggested by *Pitkow*, *Holbrook* or *Ikeda*, alone or in combination, and is therefore  
20 patentable for at least this reason.

21 In rejecting independent claim 38, Examiner takes Official Notice that  
22 “without the underlying data structure organized in the way displayed to the user,  
23 the display of the categorized objects in concentric circles could not be achieved.”  
24 (The Office action sent March 21, 2007, page 20, 1<sup>st</sup> paragraph). However,  
25 underlying data structures need not have any such relationship with particular user

1 interface presentations. Applicants therefore disagree with Examiner and formally  
2 traverse the Official Notice. Applicants request that Examiner provide an explicit  
3 reference describing the underlying data structure as required by claim 38.  
4 Without such a reference, *Holbrook* teaches only a particular user interface  
5 presentation and therefore fails to teach the user interface independent model  
6 required by independent claim 38.

7 A different reference *Ikeda* is used in combination with *Pitkow* to reject  
8 independent claim 44, but *Ikeda* suffers from similar failings to *Holbrook* in that,  
9 even if the zones of *Ikeda* can be construed as the data circles required by claim  
10 44, the zones of *Ikeda* are a user interface presentation mechanism that fail to  
11 teach or fairly suggest a data structure that facilitates traversal of the community  
12 of objects independent of a user interface as required by independent claim 44.

13 For clarity, and in particular to contrast with *Ikeda* as well as *Holbrook*,  
14 each of claims 12, 28 and 38 is amended herein to use the term “user interface  
15 independent model” in preference to “graphics independent model.”

#### 16 17 **Rejection of Dependent Claims 49 Under 35 U.S.C. § 103**

18 Dependent claim 49 stands rejected under 35 U.S.C. § 103(a) as being  
19 unpatentable over *Pitkow* in view of U.S. Patent No. 6,349,296 to Broder et al.  
20 (hereinafter *Broder*). Dependent claim 49 at least one feature not taught or fairly  
21 suggested by *Pitkow* or *Broder*, alone or in combination, and is therefore  
22 patentable for at least this reason.

23 Dependent claim 49 is directed to a computerized method as specified by  
24 independent claim 29 and with additional features. Claim 49 requires that at least  
25 two core object sets are identified and that a decision to merge the core object sets

1 is based on a set of conditions. Claim 49 further requires that the set of conditions  
2 includes a condition specifying that a particular ratio be **less than 2**. Claim 49  
3 goes on to specify the particular ratio, requiring that it be the ratio of a minimum  
4 size of the core object sets to a size of the intersection of the core object sets.

5 A decision to merge the at least two core object sets is based on a set of  
6 conditions comprising a condition specifying that a ratio of a minimum  
7 size of one of the at least two core object sets to a size of an intersection of  
8 the at least two core object sets is **less than 2**.

9 (Dependent claim 49, emphasis added).

10 *Broder* does mention ratios that include intersection of sets, however  
11 *Broder* does not describe or fairly suggest the ratio required by dependent claim  
12 49, and therefore certainly does not describe that a decision to merge core object  
13 sets is based on a set of conditions including a condition specifying that the ratio  
14 be less than 2.

### 15 **Rejections of Independent Claims Under 35 U.S.C. § 101**

16 Independent claims 1 and 38 stand rejected under 35 U.S.C. § 101 as  
17 having no tangible result. Applicants disagree that the results of data structure  
18 transformations are intangible, particularly in the context of the specification.  
19 Nevertheless, to expedite prosecution, independent claims 1 and 38 are further  
20 amended herein to incorporate a step requiring interaction with explicitly tangible  
21 computer components.

22 Independent claims 20 and 44 stand rejected under 35 U.S.C. § 101 as  
23 being drawn to nonphysical subject matter. Applicants strongly disagree that  
24 energy is nonphysical and that energy is not part of a machine. Nevertheless, to  
25



1 expedite prosecution, independent claims 20 and 44 are herein amended to be  
2 drawn to explicitly tangible computer readable media.

3 Independent claims 33 stand rejected under 35 U.S.C. § 101 as lacking a  
4 physical component. Independent claim 33 is therefore further amended herein to  
5 incorporate an explicitly physical component.

### 6 7 **The Remaining Dependent Claims**

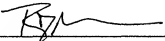
8 Each of the claims 1, 20, 29, 33, 38 and 44 is in independent form, whereas  
9 all of the remaining claims depend directly or indirectly on one of these six  
10 independent claims. The dependent claims are allowable for at least the same  
11 reasons that the independent claims are allowable in that the dependent claims  
12 incorporate the features of the independent claims. Nevertheless, the dependent  
13 claims further define subject matter not shown or rendered obvious by the prior art  
14 of record. Because the independent claims are allowable over the applied  
15 references, Applicants believe that remarks addressing this further subject matter  
16 are unnecessary herein.

### 17 18 19 **Conclusion**

20 The present application is considered in good and proper form for  
21 allowance, and the Examiner is respectfully requested to pass the application to  
22 issue. If, in the opinion of the Examiner, a telephone conference would expedite  
23 the prosecution of the application, the Examiner is invited to call the undersigned  
24 practitioner.  
25

Respectfully Submitted,

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